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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/741,673	12/19/2003	Tsau-Hua Hsieh		4150

25859 7590 07/26/2006  
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EXAMINER

MOON, SEOKYUN

ART UNIT	PAPER NUMBER
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2629

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/741,673	HSIEH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Seokyun Moon	2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/19/2003</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Information Disclosure Statement*

1. The information disclosure statement (IDS) filed on December 19, 2003 has been acknowledged and considered by examiner. The initial copy of form PTO-1449 is included in this office action.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-4, 14-17, and 20** are rejected under 35 U.S.C. 102(b) as being anticipated by Kuroki et al. (US Pat. No. 6,492,973 B1, herein after referred to as "Kuroki").

As to **claim 1**, Kuroki [fig. 1A] teaches a display system ("*flat display drive device 1000*") [col. 4 lines 30-33], comprising:

a signal generation device ("*display signal source 1*") [fig. 18A] generating signals to be displayed [col. 5 lines 53-56];

an interface unit [fig. 18A], comprising:

a control unit ("*X-Y direction signal separation unit 24*") receiving the signals to be displayed from said signal generation unit and converting the signals to be displayed into driving signals [col. 14 lines 59-67]; and

a transmitting unit (a combination of "*parallel-serial conversion units 131 and 132*", "*ASK/PSK/FSK modulators 2 and 125*", "*frequency division multiplexer 26*", and "*NRD guide transmitter 6*") converting the driving signals into radio frequency waves [col. 15 lines 6-18 and col. 16 lines 62-65];

a first antenna ("*transmitting antenna 13*") [fig. 1A] for sending the radio frequency waves from said transmitting unit;

a second antenna ("*receiving antenna 16*") [fig. 1A] for receiving the radio frequency waves sent from said first antenna; and

a display device [fig. 1A], comprising:

a receiving unit (a combination of "*NRD guide receiver 15*", "*demodulator 20*", and "*signal separation circuit 20*") receiving the radio frequency waves from said second antenna ("*receiving antenna 16*"), converting the radio frequency waves into the driving signals, and separating the driving signals into x-direction image signals and y-direction image signals [col. 7 lines 5-7 and lines 15-18];

a display panel comprising an x-direction drive line arranged for each row of display pixels and a y-direction drive line arranged for each column of display pixels [col. 7 lines 19-35];

an x-direction driver ("*22*") supplying the x-direction drive line with the x-direction image signals [col. 7 lines 19-35]; and

a y-direction driver ("23") supplying the y-direction drive line with the y-direction image signals [col. 7 lines 19-35].

As to **claim 2**, Kuroki teaches said signal generation device being any one of a personal computer, a server computer, a personal digital assistant, a television set, a television phone, and a television conference system [col. 5 lines 53-56].

As to **claim 3**, Kuroki teaches said display panel being a liquid crystal panel [col. 7 lines 19-26].

As to **claim 4**, Kuroki teaches the radio frequency waves being millimeter waves [col. 3 lines 26-35].

As to **claim 14**, all of the claim limitations have already been discussed with respect to the rejection of claim 1.

As to **claim 15**, all of the claim limitations have already been discussed with respect to the rejection of claim 3.

As to **claim 16**, all of the claim limitations have already been discussed with respect to the rejection of claim 4.

As to **claim 17**, Kuroki [fig. 1A] teaches a wirelessly driven system ("*flat display drive device 1000*") [col. 4 lines 30-33] comprising:

an emitting device (a combination of "*display signal source 1*", "*X-Y direction signal separation unit 24*", "*parallel-serial conversion units 131 and 132*", "*ASK/PSK/FSK modulators 2 and 125*", "*frequency division multiplexer 26*", "*NRD guide transmitter 6*", and "*transmitting antenna 13*") [fig. 18A] including a first antenna ("*transmitting antenna 13*"); and

a receiving device (a combination of *"receiving antenna 16"*, *"NRD guide receiver 15"*, *"demodulator 20"*, and *"signal separation circuit 20"*) including a second antenna (*"receiving antenna 16"*) interactively communicating with the first antenna; wherein said emitting device (a combination of *"display signal source 1"*, *"X-Y direction signal separation unit 24"*, *"parallel-serial conversion units 131 and 132"*, *"ASK/PSK/FSK modulators 2 and 125"*, *"frequency division multiplexer 26"*, *"NRD guide transmitter 6"*, and *"transmitting antenna 13"*) includes a signal generating unit (*"display signal source 1"*), a transmitting unit (a combination of *"parallel-serial conversion units 131 and 132"*, *"ASK/PSK/FSK modulators 2 and 125"*, *"frequency division multiplexer 26"*, and *"NRD guide transmitter 6"*) and a control unit (*"X-Y direction signal separation unit 24"*) under a condition that said transmitting unit communicatively connected to said control unit and said first antenna, respectively [col. 15 lines 6-18 and col. 16 lines 62-65], and said signal generating unit communicatively connected to at least said control unit [col. 14 lines 59-67]; wherein said receiving device includes a receiving unit (a combination of *"NRD guide receiver 15"*, *"demodulator 20"*, and *"signal separation circuit 20"*) [fig. 1A] communicatively connected to the second antenna (*"receiving antenna 16"*) and a display panel communicatively connected to the receiving unit.

As to **claim 20**, Kuroki [fig. 18A] teaches that said transmitting unit (a combination of *"parallel-serial conversion units 131 and 132"*, *"ASK/PSK/FSK modulators 2 and 125"*, *"frequency division multiplexer 26"*, and *"NRD guide transmitter 6"*) is essentially directly connected to said first antenna (*"transmitting antenna 13"*), and

said receiving unit (a combination of “*NRD guide receiver 15*”, “*demodulator 20*”, and “*signal separation circuit 20*”) [fig. 1A] is essentially directly connected to said second antenna (“*receiving antenna 16*”).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 5-13, 18, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuroki in view of Wilson (US Pat. No. 6,005,533).

As to **claim 5**, all of the claim limitations have already been discussed with respect to the rejection of claim 1 except for a signal processing unit receiving input signals, a first transceiver unit, a first antenna receiving backward radio frequency waves, a second antenna sending the backward radio frequency waves, and a touch-screen display device having a second transceiver unit and input signal detectors.

Kuroki does not teach a signal processing unit receiving input signals, a first transceiver unit, a first antenna receiving backward radio frequency waves, a second antenna sending the backward radio frequency waves, and a touch-screen display device having a second transceiver unit and input signal detectors.

However, Wilson [fig. 4] teaches a signal processing unit (“*video controller 113A*”) generating signals to be displayed and receiving input signals, a first transceiver

unit (a combination of "*RF controller 114B*" and "*RF transceiver 116*") converting the driving signals into forward radio frequency waves and providing the input signals for said signal processing unit from backward radio frequency waves [col. 4 lines 4-12], a first antenna receiving backward radio frequency waves ("*antenna 116A*"), a second antenna sending backward radio frequency waves to said first antenna ("*antenna 116A*"), a touch-screen display device ("*on-screen keyboard*") [abstract] comprising a second transceiver unit (a combination of "*RF controller 114B*" and "*RF transceiver 116*") converting input signals into backward radio frequency waves (It is noted that "*wireless interface device 101*" and "*host computer 101*" both have a "*transceiver 116*" as shown in figure 1. Therefore, the structure of the transceiver for "*host computer 101*" is equivalent to the structure of the transceiver for "*wireless interface device 101*" shown in figure 4).

Kuroki modified by Wilson inherently teaches an input signal detector included in each of plural pixels included in the touch-display since it is required for the modified Kuroki to detect any touch inputted by the user, to convert the touch into electrical signals and to transmit the signals to the antenna.

As to **claim 6**, all of the claim limitations have already been discussed with respect to the rejection of claim 2.

As to **claim 7**, all of the claim limitations have already been discussed with respect to the rejection of claim 3.

As to **claim 8**, all of the claim limitations have already been discussed with respect to the rejection of claim 4.

As to **claim 9**, Kuroki modified by Wilson the input signal detector being of one of a resistive type, a capacitive type, an optical type and an ultrasonic type, and is activated by pressing a finger or a stylus pen for generating the input signals [Wilson: col. 5 lines 61-66].

As to **claim 10**, all of the claim limitations have already been discussed with respect to the rejection of claim 5 except for the x-direction signal lines and the y-direction lines crossing with each other for defining a plurality of display pixels.

Kuroki modified by Wilson inherently teaches the x-direction signal lines and the y-direction signal lines to cross with each other for defining a plurality of display pixels since it is required for the pixels of the modified Kuroki's display to be driven by both of x-direction signal and y-direction signal and thus required to be formed by the portions of the both of x-direction signal lines and y-direction signal lines.

As to **claim 11**, all of the claim limitations have already been discussed with respect to the rejection of claim 3.

As to **claim 12**, all of the claim limitations have already been discussed with respect to the rejection of claim 4.

As to **claim 13**, all of the claim limitations have already been discussed with respect to the rejection of claim 9.

As to **claim 18**, all of the claim limitations have already been discussed with respect to the rejection of claim 5.

As to **claim 19**, Kuroki modified by Wilson [Wilson: fig. 4] teaches said signal generating unit (Wilson: "*video controller 113A*") being further communicatively and

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directly connected to said transceiver (Wilson: "*RF controller 114B*" included in "*communication system 118*") through "*bus 151*" [Wilson: col. 6 lines 31-33].

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen et al. (US Pub. No. 2004/0090392 A1) teaches an image transmission system including a computer for generating image signals and an image-projecting device having a receiver.

Reilly (US Pat. No. 6,580,422 B1) teaches a remote computer display for a portable computing device utilizing the transfer of graphics primitives over a wireless data link.

Want et al. (US. Pat. No. 5,818,425) teaches a user interface system for providing pen based input to large display screen including a portable computer supporting a wireless transmitter and a small pen input screen.

Fujita et al. (US Pat. No. 5,825,336) teaches a remote operation apparatus comprising a master display term and a slave display term, and a method of transferring video data from a master display term to a slave display term.

Nishitani et al. (US Pat. No. 5,629,714) teaches an information processing system with which it is possible to input handwritten information to a common display unit from any input unit freely at anytime.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 13, 2006  
S.M.

AMR A. AWAD  
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Amr A. Awad', written over a horizontal line.